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SCIENCE FROM ART

The activities on these four pages use art materials to promote the development of observational skills and knowledge of materials and aspects of nature – plants and animals.

When children use art media they develop awareness of how materials behave and are encouraged to use vocabulary associated with colours, textures and processes, while the focus on plants and animals enables children to consider plant parts, functions and habitats. In addition, as the children explore, the science-through-art activities encourage them to be creative and to use their imaginations.

**SCIENCE
SWAP SHOP**
four-page pull-out

ages 3–5

Leaf printing

Leaf printing provides a valuable opportunity to explore the changing appearance of trees over the seasons and provoke discussion of where and when leaves grow and the differences between deciduous and evergreen trees.

You will need:

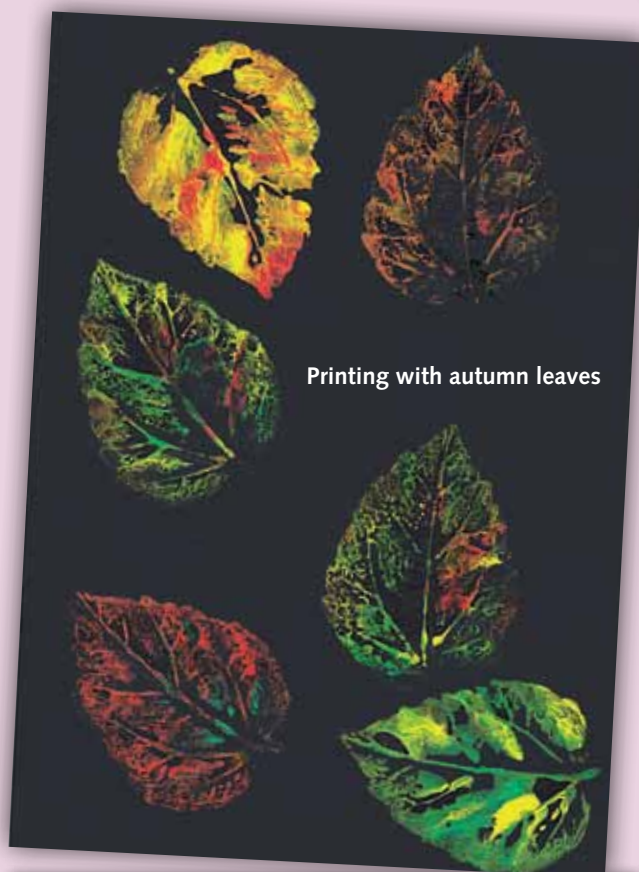
- tree leaves
- black sugar paper
- small sponges (one for each paint colour)
- bottle paint in leaf colours in plastic trays
- newspaper

Instructions

- 1 Look at the leaves. Talk about the shapes, colours and textures.
- 2 Using sponge, dab paint on to the 'back' of the leaf, matching colours.
- 3 Place the leaf on the black paper. Cover with newspaper and press.
- 4 Repeat the process with the same leaf until prints no longer form.

Extension ideas

- Compare leaf prints from trees in autumn and summer months.
- Investigate leaves from a variety of common plants.



Printing with autumn leaves

Learning outcomes

- Observe differences and similarities in leaves.
- Describe patterns, colours and textures.
- Know trees are plants.
- Observe changes (leaves and paint).

Camouflaged creatures

Children love using modelling clay or dough. In this activity they can demonstrate their artistic and manipulative skills while learning about how the materials behave and how living things are adapted to their environments.

You will need:

- Plasticine, clay or modelling dough
- Camera

Instructions

- 1 Introduce a ball of Plasticine/clay/modelling dough as an 'egg' that will hatch into a new living creature.
- 2 Mould a creature and invite ideas as to the creature's name, habitat, food, etc.
- 3 Ask children to create their own creature, encouraging discussion. Is it camouflaged? What are its predators?
- 4 Take photographs of the creatures placed in their preferred habitats.

Extension ideas

- Create environments for the creatures and life histories.



Camouflaged creatures in their preferred habitats

Learning outcomes

- Know that most living things live in habitats to which they are suited.
- Know that the shape of some materials can be changed by squashing, bending, twisting and stretching.

Design a plant

Imagination and creativity are evident when children design their own plants for a purpose, while learning about the functions of the parts of a plant and how animals interact with them.

Thomas designed a holiday home tree for Rodney the hamster



You will need:

- photographs of plants (including trees)
- access to real plants
- drawing and modelling materials (this will depend on the children's choice)

Instructions

- 1 Discuss with children 'what is a plant?' Look at photographs/outside to consider features that help plants to survive.
- 2 Think about why some animals are attracted to particular plants. Use the internet for research.
- 3 Design and make a plant for a 'reason'.

Extension ideas

- Invite children to 'pitch' their idea to a garden centre. Why should people buy their plant?

Learning outcomes

- Be able to identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.

Rosie's square tree is made from dowel with card layers separated by pieces of plastic straw. Rosie explained: 'My tree is a bit like a fir tree but it doesn't have needles. Each year a new layer grows. My tree has 7 layers so it is 7 years old. Insects like this tree because they can find a layer to be camouflaged on. Ladybirds like the red layers. It doesn't have roots so it can be moved easily. It grows in shady, not windy areas.'



Flower painting on silk

Painting flowers on silk is a delightful way for children to combine making detailed observations of flowering plants with learning about and practising the ancient art of silk painting.



A pencil sketch of daffodils and the finished silk painting



You will need:

- a variety of cut flowers, e.g. lilies, daffodils, iris, tulips
- paper and pencils
- magnifying glasses
- silk
- silk paints (a variety of colours)
- gutta (liner to draw outline)

Instructions

- 1 Look at the flowers. Discuss component parts. Compare and contrast.
- 2 Make preliminary pencil sketches
- 3 Transfer a chosen sketch onto silk, drawing on with pencil.
- 4 Outline the pencil sketch with the special liner, gutta. Ensure there are no gaps or the paint will spread outside the lines.
- 5 Apply the silk paint. The paint will spread on the silk up to the gutta outline.

Extension ideas

- Name the parts of the flower and investigate their role in pollination and fertilization.

Learning outcomes

- Identify how plants are adapted to suit their environment in different ways and understand that adaptation may lead to evolution.
- Present findings from enquiries in oral and written forms such as displays.

These ideas were brought to you by Rachel Linfield, Debbie Nabb and Gaynor Riley, Senior Lecturers in Education at Leeds Beckett University: r.linfield@leedsbeckett.ac.uk

What will you swap? This pull-out is a place where you can share your ideas as well as gaining new ones. Please send your ideas to: janehanrott@ase.org.uk